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MONTHLY REPORT

1 DECEMBER - 31 DECEMBER 1958

INSTALLATION AND MAINTENANCE BRANCH

ENGINEERING STAFF

1. A Motorola 250 watt base station has been installed to replace the 60 watt unit located in Room 2, East building. The 60 watt unit has been taken to the Installation and Maintenance Branch Shop, [redacted] Warehouse, where it will be modified for repeater operation and installed [redacted]

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2. Eight men returned from schools, that included the AS4-A, KW-26, and Flexowriter. A Flexowriter familiarization course has been started in the Wire Shop at Curie Hall. All wire technicians processing for overseas assignments will be briefed on Flexowriter operation. Fifteen man-weeks have been spent on the Flexowriter program to the present date.

3. Specifications and drawings are being prepared for a standard KW-26 rack installation. After the fabrication and acceptance of the prototype model, a brochure will be made up for distribution to all areas.

4. Two new Electronic Technicians and one Wire Technician reported on duty during this reporting period. Four men departed for overseas assignments and eleven men are in process for overseas positions.

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[redacted]
Chief, Installation and Maintenance Branch, OC-E

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I WIRE MAINTENANCE SECTION

A. Trouble Reports

1. The Wire Maintenance Shops in the Washington area have reported a total of two hundred and forty nine (249) troubles for the month of December. The troubles as broken down for the different locations are as follows:

Signal Center	200
1717 "H" Street	15
OCI	24
Outside Area	10

2. This total shows an increase of nineteen (19) troubles over last month. The Signal Center had a considerable amount of 131-B2 table troubles this month which resulted in this marked increase.

B. Daily Activities

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1. The [] teletype circuit GT-7085 was replaced by teletype circuit GT-7420. This circuit was checked out at the three local signal centers and between each of these signal centers to the []

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2. Due to the unfamiliarity of the [] equipment by our technicians in this area, troubles that developed have taken considerable time to repair. Mechanical and electrical adjustments seem to be very critical.

25X1A

3. During the first part of the month, troubles on the KW-26 equipments ran quite high. Two core boards were found bad and several tubes needed replacing. Tubes in all units were checked in a tube checker, with bad tubes being replaced. This resulted in numerous troubles appearing shortly after placing units back in operation. It has been decided that unless troubles develop, all tube and core board servicing will be done by means of the marginal check method.

4. A Dial Door Lock was installed on the watch officer's door "Q" Building as per request, Chief, OCI.

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5. The maintenance shop for "Q" Building Signal Center is nearly completed. All parts have been stored and location cards have been made. The test bench is in place and is in the process of being wired-up. The only other item still necessary for completion is the rack shelving, which should be delivered during January.

6. One man has returned from a six week course at the Flexowriter School in New York. Four men completed an eleven week course at the [] on the KW-26.

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7. Three men received instruction on the repair and maintenance of the Flexowriter. This course lasted one week. The unit was stripped down and the operation and adjustments were explained. Two weeks is normally the time needed to complete this course. From the above, it can be seen that very little time was expended on the theory of operation and this instruction does not constitute a thorough knowledge of these equipments.

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8. A Model 15 was delivered to "L" Building Signal Center for use on the []. It is being used as a monitor for additional copies. This was done to comply with a written request from the Signal Center.

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9. One ASR unit and two Model 28 Reperforators were delivered to Room 544 "H" Street. These were installed and checked out for use on the [] which will be operating at an increased speed of one hundred words per minute. We are now waiting for notification from the [] to switch over.

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10. We are able to keep two men most of the month at the []. As a result much work was completed. Eight M-15 Consoles and one M-15 were cleaned, overhauled and been P.T.I.'d in Class 1 condition.

The following work orders were completed for the T&I Section:

- a. Serviced the 6-ST van.
- b. Repaired three M-19 Reperforators.
- c. Checked out numerous equipments for overseas shipment.

11. The Secure vault at the [] is now ready for use. Safemasters Lock Co. installed a combination lock. Security inspected and approved the vault. The combination was set.

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12. A space in the warehouse of approximately 12 feet by 25 feet was procured for storing transient equipment for the Rehab. Shop.

C. Special Projects

1. Listed below are projects that have started, but not completed.

- a. The overhaul of twenty major pieces of equipment now at our Rehab. Shop.
- b. Making drawings for the rack mounted KW-26's using conduit and circuit breakers.

II ELECTRONIC MAINTENANCE SECTION

A. Microwave

1. Regular maintenance visits were made to both microwave installations and minor defects noted were repaired.
2. One trouble call was received on the microwave system. A defective subcarrier receiver was discovered at [REDACTED]
3. Because of the work load we were unable to complete the reconditioning of the microwave equipment at the Installation and Maintenance Branch Shop, [REDACTED]

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B. Washington Disaster Plan

1. Regular maintenance visits were made to [REDACTED] and to Room 2. No cars of the Security Office V.H.F. Net were serviced this month.
2. No trouble calls were received for this period.
3. We have installed the Motorola 250 watt base station in Room 2 of East Building. The equipment is operating as expected, with the exception of a slight degradation of the 165.825 MC receiver when automatically retransmitting on 172.575 MC. We have requested that Motorola give us the exact cable lengths between the cavity, transmitter, receiver and antenna. This information should correct our difficulties.

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4. The Motorola 60 watt Base Station which was removed from Room 2 has been taken to the Installation and Maintenance Branch Shop, [] Warehouse. We are in the process of reconditioning the equipment, and modifying it for repeater operation. It will then be taken to [] for installation.

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5. Because of the unfavorable weather the contractor has been unable to install the second V.H.F. antenna on the microwave tower at []

6. Preventive maintenance has been performed on seven Motorola Handie-Talkie units for the Office of Security, 1412 "I" Building.

7. Specifications and drawings have been prepared for the reconditioning of the Tylon towers atop of East, North, and Administration Buildings. We will not be able to submit the plans to G.S.A. until after 5 January 1959.

C. KY-1 Voice Privacy System

1. Four trouble calls were received for this period. This is encouraging, for the units appear to be reaching a relative "troublefree" state.

2. The KY-1 switchboard automatic register readings are as follows.

NIC	28 November to 23 December 1958	135 calls
SPS/AFB	28 November to 23 December 1958	48 calls
DDI	28 November to 23 December 1958	22 calls
DCI	28 November to 23 December 1958	24 calls
A total of 1158 calls were counted for this period.		

3. The KY-1 telephone booth has been removed from the DCO's office.

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4. [] has been given training on a time -available basis, and he has progressed to a point where he can maintain the KY-1 system. Of course, as he gains experience the time spent per trouble call will be reduced, and in time he should develop into a good KY-1 technician.

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D. AS-8 Equipment

1. This report summarized the AS-8 activities for the period ending 29 December 1958. The installation was completed 5 December 1958, and tests have been conducted since that time.

- a. An AS-8 installation report containing a summary of the installation, and recommendations for its future use has been completed. An AS-8/231D-20 modification instruction report containing the information necessary to modify a 231D transmitter for AS-8 operation, AS-4 operation or normal operation is nearing completion.
- b. The maintenance performed during this period was minor. Two outages were caused by the field station equipment, and one outage was caused by the base station equipment. The field station troubles were traced to a cold solder joint in the communications unit, and a defective diode in the power amplifier units, Auto-tune system. The base station trouble was found to be a defective diode in the printing unit.

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2. is being given informal training on a time-available basis. A more formal training course is being prepared for future use.

E. 6 ST Equipment

1. A complete inventory and an operational check of all equipment except the generators was made of the transmitting and receiving vans. All of the electronics equipment in the receiving van is operational, with the exception of seven communications receivers which need calibration or realignment. The fire extinguishers and typewriters 1, 2, 3, 4 and 5 should be serviced. The following equipment in the Transmitting van will need repair.

1. Two TAC-1 Units
2. HT-4 Transmitter Number 1
3. One V.O.X.
4. One 51 J Receiver
5. One URT-11 Transmitter

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F. Special Projects

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1. Completely installed G.E. 25 watt transmitter receiver in two vehicles for SEB. Twenty-five watt G.E. Equipment has also been mounted in another vehicle, but in this case 25X1A6d the microphone, speaker, and make other modifications.
2. Repaired one 25 watt G.E. Transmitter Receiver.
3. Repaired two RT-6 transmitters, and one RP-6 power supply for the American Division.
4. Repaired one Bogen Amplifier, and one Motorola Conelrad receiver for the Signal Center.

III MECHANICAL MAINTENANCE SECTION

- A. Preventative maintenance was performed on all emergency power generators as scheduled each Friday.
- B. Inspected twelve generators for the T&I section.

IV Branch Supply

A. Requisitions and Property Turn Ins

1. Equipment ordered this month as requested by OC-E/I&MB is as follows.
 - a. The Wire Maintenance Section requested three par metal racks at a total cost of \$100.62. These racks are for the installation of KW-26's.
 - b. The Electronic Maintenance Section requested one Output Meter, one Test Equipment Calibrator, and four antenna coupling units at a total cost of \$439.44.
2. Six requisitions consisting of 69 line items were processed for field shipment at a total cost of \$551.05.
3. As of 23 December \$19,641.17 has been expended for spare parts required to maintain stock levels for equipment serviced by OC-E/I&MB and to fill requests by the field stations.
4. One Model 15 Teletypewriter Set was transferred from Account 180 to Account 910

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5. Three Model 28 Teletypewriter Sets and seven Model 15 Consoles were transferred to warehouse stock.

B. Cryptographic Material and Equipment

1. One hundred and five new line items of spare parts at a total cost of \$1,068.23 were ordered for the modified KY-1.
2. Four each HW-19A, Electronic Start-Stop Teletypewriter Signal Mixers were transferred to Commo-Security Vault.
3. One KX-3 Facsimile Set was picked up from the Curie Hall Vault by Commo-Security for shipment to the field.
4. Six each Interconnecting Cables to be used with the KL-47 Electromechanical Literal Cipher Machine were ordered from the Navy.

C. Other Activities

1. Flexowriter Parts Manual and a Description and Adjustment Manual were ordered from Commercial Control Corporation.
2. At an Approximate cost of \$2,508.70 (340) line items of spare parts for the Model 28 ASR and Transmitter Distributor were ordered. This brings the total of parts ordered for the Model 28 equipment to 789 line items, approximate cost \$6,890.62.
3. Line Feed Counter
One line item was received this month, this brings the total still due into three.

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